

July 10, 11, and 12 she laid eggs measuring  $.93 \times .69$ ,  $.94 \times .68$ , and  $.88 \times .69$  in. I now supposed that she was through with her remarkable production of eggs, but to my astonishment on July 25, 26, and 27 she again laid, the eggs measuring  $.93 \times .67$ ,  $.89 \times .64$  and  $.90 \times .65$  respectively. This ended the production of eggs for this year. In August I tried to put the male in the cage with the female, and this time they managed to get along without quarreling, and have been kept in one cage ever since.

It was very interesting to observe the moulting of the male, and see him gradually take on the adult plumage. July 20 a few orange colored feathers could be observed on his head near the base of the bill; these gradually grew until on August 1, his drab colored head feathers were all replaced by orange colored ones. July 25 a few orange feathers were noted on his throat, and these grew and replaced the old ones until on September 5 the moult was completed. The feathers of the head, throat, etc., are of a peculiar orange color instead of the beautiful red hue which characterizes the wild birds of the same sex.

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DESCRIPTIONS OF AN APPARENTLY NEW SPECIES  
AND SUBSPECIES OF PTARMIGAN FROM  
THE ALEUTIAN ISLANDS.

BY D. G. ELLIOT, F. R. S. E.

*Plate III.*<sup>1</sup>

DURING a late visit to Washington my friend Mr. R. Ridgway kindly allowed me to examine the extensive series of Ptarmigan in the collection of the National Museum with permission to describe any novelties I might discover, and the two apparently new forms named in this paper are the results of my investigations.

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<sup>1</sup> The publication of this plate is necessarily deferred till the July number.

**Lagopus evermanni**, sp. nov.

*Habitat*, Attu Island.

*Adult male*, Attu Island, 4th June, 1894.—Forehead white. Top of head and back of neck black, finely barred with tawny. Loral space, breast and entire upper parts, tertials, innermost secondaries, and upper tail-coverts black, with faint vermiculations of russet on rump, upper tail-coverts and edges of tertials. Sides of face black and white mixed. Comb over eye, scarlet. White feathers of the winter dress are interspersed among the feathers of the back and upper part of the breast. Most of wing-coverts, secondaries, and entire primaries pure white, with the shafts of primaries pale brown. Tail clove brown, almost black, with narrow white tips to the feathers. Entire under parts, including under tail-coverts, pure white. Bill and claws, black. Total length, 13.90 inches; wing, 7.50; tail, 5.30; tarsus, 1.30; exposed culmen, .50.

This specimen is not in complete summer dress, as is shown by the few remaining white feathers, scattered among the black ones, and also by the white forehead. These feathers would undoubtedly give place to others colored like those of the adjoining parts.

*Adult female*, Attu, 28th May, 1892.—Entire plumage of body ochraceous, palest on the throat, blotched and barred on the back with black and the feathers with white tips, while the feathers of rump and upper tail-coverts have ochraceous tips. On the breast and flanks the black blotches are much fewer but the black bars are broader, and there are no white tips on the breast feathers, but those on the abdomen and some on the flanks are broadly tipped with white. Under tail-coverts ochraceous barred with black. The tertials, inner secondaries and some of the greater wing-coverts ochraceous like the back, barred and tipped with white; remainder of wing and primaries pure white with the shafts of the latter pale brown. Bill and claws black. Total length, 12.80 inches; wing, 6.60; tail, 4.90; tarsus, 1.30; exposed culmen, .60.

Seven specimens, five males and two females, from Attu, one of the Near Island Group, brought by Prof. B. W. Evermann, Mr. C. H. Townsend, and Dr. S. I. Call, are all the representatives of this new species yet obtained. Of the Rock Ptarmigans of the Northwest, *L. evermanni* is apparently nearest allied to *L. rupestris nelsoni* of Unalaska and the Shumagin Islands, but is distinguished at once from all the Ptarmigans of the Western Hemisphere by its entire black and white plumage, exhibiting a strong contrast to *L. r. nelsoni* with its russet coloration. The female, while having a general resemblance to that of *L. r. nelsoni*, which is to be expected, as the females of most

Rock Ptarmigans are similar in appearance, presents differences in color and style of markings that cause it to be readily recognizable from all its relatives, the black predominating to such an extent in the hues of the plumage as to make her appear much darker than the female of any other species.

Attu Island is about 1400 miles west of Unalaska, and between these points only two forms of Ptarmigans have been procured,—*L. r. atkensis* and the subspecies *L. r. townsendi* described farther on, both very different in all respects from *L. evermanni*, and there are no opportunities for intergradation, the habitats of the different forms being islands and too far separated by extent of sea, while *L. atkensis* and *L. r. townsendi*, to be described later, preserve their peculiar general characteristics and individual distinctness throughout their range. The males of *L. evermanni* bear a certain resemblance to specimens of *L. mutus*, of the Eastern Hemisphere, where these have much black in their plumage; but between Attu and the continent of Asia is found *L. ridgwayi*, a very distinct form from Bering Island, about 300 miles west of Attu. This would seem to bar any possible relationship between *L. evermanni* and any continental species, though it is a surprising fact, and one that can only be theorized upon and not thoroughly explained, that species which are closely allied can be separated by many miles of sea and land, and yet retain their specific characteristics, though distinctly different species may be found occupying interlying territory. This is one of the curiosities of geographical distribution, the solution of which is probably beyond the power of man to fathom.

It gives me much pleasure to bestow upon this new species from Attu Prof. Evermann's name, as he was the first to bring this Ptarmigan to the notice of naturalists.

The other new form I propose to name

### *Lagopus rupestris townsendi*, subsp. nov.

*Habitat*, Kyska and Adak Islands, Aleutian Chain.

*Adult male*, Kyska Island, 8th June, 1894, Nat. Mus. No. 135,634, type.—The general color of the entire upper parts, including head and neck, together with the breast and flanks, raw umber with a tinge of russet, finely vermiculated with black on lower back and rump, more coarsely marked

on the other parts, with black blotches on the head, neck, upper part of back and wings; feathers of back, rump and wings tipped with white. Some of these white tips are finely spotted with black, giving them a gray appearance. The outer secondaries, tertials, and most of the wing-coverts and primaries, pure white, the last having black shafts. The long upper tail-coverts are marked and colored like the back, with white tips. Tail clove brown, nearly black, the feathers tipped with white, broadest on the median, decreasing towards the outer ones, where it is either hardly perceptible or absent altogether. Throat white, mixed with a few colored feathers. Breast, sides of neck, and flanks ochraceous, barred with black, the bars broader and more conspicuous on neck. Abdomen and belly white. Under tail-coverts mummy brown barred with black. Loral space and ring around the eye black, and a scarlet comb above the eye. Sides of neck of a slightly paler hue than back or breast. Total length, 13.70 inches; wing, 7.50; tail, 4.00; tarsus, 1.50; exposed culmen, .50.

*Adult female*, Kyska, 8th June, 1894, Nat. Mus. No. 135,635, type.—Entire upper parts, including scapulars, tertials and upper tail-coverts ochraceous blotched and barred with black, most of the feathers tipped with white, except those on hind neck which are tipped with ochraceous. Tail square, clove brown, the four median feathers tipped with white. Secondaries, wing-coverts, and primaries white with black shafts, except those of inner secondaries which are white. Throat white. Breast, sides of body, and under tail-coverts ochraceous buff, lighter than the back, and broadly barred with black. Center of breast, abdomen, and belly pure white. Thighs and tarsus covered with white feathers. Bill and claws black. Total length, 12.50 inches; wing, 6.90; tail, 4.40; tarsus, 1.20; exposed culmen, .50.

*Adult male*, Adak Island, 4th July, 1893, Nat. Mus. No. 131,874.—Upper parts grayish wood-brown finely vermiculated with black, and having occasional black blotches, with generally subapical narrow black bars on the feathers, and white tips. The head and hind neck are more of a fulvous hue, and the black bars are very narrow. The breast is fulvous finely vermiculated with black, and with narrow black bars, the tips of the feathers being usually buff. The general appearance of the males in this month is more grayish with finer black lines and vermiculations.

*Adult female*, Adak, 4th July, 1893, Nat. Mus. No. 131,878.—There is not much difference upon the back of the female in this month, except there is apparently more ochraceous on the tips of the feathers in the median line and on the rump, with a tendency to grayish on the scapular region. The under parts differ in being uniformly rich buff with much narrower black bars than is seen in the June birds, and with the exception of an occasional white feather in the abdominal region, there is no white anywhere. This seems to be the full summer dress, and at once attracts the attention of the observer by the narrowness of the black lines and absence of white.

There are about twenty specimens of both sexes of this subspecies in the collection, taken in June on the island of Kyska and in July on Adak. The first of these lies in about  $183^{\circ}$  west Longitude and the latter in about  $177^{\circ}$ . There is a slight difference in the appearance of the birds from the two localities, and this can be attributed possibly somewhat to the difference of date in their capture, the Adak birds having been obtained one month later, but more to their geographical distribution, as Adak is several hundred miles east of Kyska, and the birds' environment has produced a different result upon them but one, not yet sufficiently pronounced to establish even a subspecific form. It will be observed that the male — and this example agrees with all the others taken at the same time — has much finer vermiculations, giving the back a slightly grayish hue, and the conspicuous black bars on the neck of the Kyska birds have been reduced to very narrow bars or vermiculations, and the general plumage presents a much more delicate pattern. The female shows even more striking changes. The back is decidedly grayish about the tips of the feathers, and the entire under parts are ochraceous buff, narrowly barred with black; the white on the breast, abdomen, and belly having entirely disappeared, only an occasional white feather showing here and there. The entire throat is a pure light buff. The specimen appears to have assumed a complete summer dress.

It is very evident that comparisons of Ptarmigans should be made between individuals not only from the same locality, but also taken in the same month, if possible the same day, for these perplexing birds being in a constant state of moult, a few days' difference in the time of their capture exhibits much change in their appearance, and one who has not studied them carefully with sufficient material, could easily be led to form an erroneous opinion regarding the status of a subspecific or even a specific form. As the birds from Atka and the two islands Kyska and Adak are spread before one, the differences between those of the first and the last two localities are so distinguishable and marked that the most careless observer would be able to detect them, and after a little investigation to separate them without hesitation even if they were mixed indiscriminately together, the Atka birds being

lighter in general hue and without the black blotches on the upper parts so conspicuous in the examples from the other islands. It is not, however, always easy to cause a description of allied forms among Ptarmigans to bring to one's mind any one of them with the clearness and unfailing accuracy that even one glance of the eye is capable of producing, and the doubter then, who has no access to the specimens, must form his opinion either mainly in the 'dark' or wait until access to sufficient specimens will enable him to comprehend thoroughly their differences.

I have conferred upon this subspecies the name of Mr. C. H. Townsend of the United States Fish Commission, who has brought many specimens of Ptarmigans from various islands in the Aleutian Chain.

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## SONGS OF THE WESTERN MEADOWLARK.<sup>1</sup>

BY L. BELDING.

THESE songs of the Western Meadowlark (*Sturnella magna neglecta*) were copied at Gridley, California.

Numbers 1 and 2 are good examples of superior articulation. The pitch of No. 9 is uncertain, but that of the others is correct, or nearly so.

These twelve songs are selections from the best songsters. I have heard these songs many times, and have heard them sung imperfectly oftener than otherwise.

I have heard more *writable* songs from this bird at this locality than at any or all places where I have been in this State, and I have always noticed the songs wherever I have been.

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<sup>1</sup> For musical notations of songs of the Western Meadowlark as heard in Colorado, see Charles N. Allen, Bull. Nutt. Orn. Club, VI, 1881, pp. 145-150; as heard in Manitoba, see Ernest E. Thompson, Amer. Mag., April, 1887 (republished in Proc. U. S. Nat. Mus. XIII, 1891, pp. 575-579).—EDD.